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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,732	04/09/2004	Toshiharu Tanaka	107350-00008	9011

7590 12/29/2006
ARENT FOX (NIKAIDO, MARMELESTEIN, MURRAY & ORAM)
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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT	PAPER NUMBER
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2881

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/29/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/820,732		TANAKA ET AL.	
	Examiner		Art Unit	
	Phillip A. Johnston		2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11-04; 9-05</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims Rejection - 35 U.S. C. 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claim 1 is rejected under 35 U.S.C. 102 (a) as being clearly anticipated by Chandra, U.S. Patent No. 6,602,349.

3. Regarding claim 1, Chandra teaches wafer process chamber 10 that consists of process cavity 20, manifold 12, 14, and lid 30, where lid 30 moves up (Note Fig. 2) and down (Note Fig. 1) to seal process cavity 20 (container). See Col. 1, line 23-35; Col. 6, line 12-42. It is inherent from a review of Figure's 1 and 2, that raising and lowering lid 30 is accomplished by an elevator mechanism. See also USPN 6,497,239 to Farmer et al.

Claims Rejection – 35 U.S.C. 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,602,349 to Chandra.

6. Regarding claim 2, Chandra teaches all the required limitations of claim 2, as pointed out with respect to claim 1 above. Chandra also teaches in Figure 1 above that the opening and the lift (elevator) mechanism are contained in the upper (top) portion of chamber 10.

7. Regarding claims 3-6, Chandra teaches all the required limitations of claims 3-6, as pointed out with respect to claim 1 above. However, Chandra fails to teach the use of an elevator mechanism having threaded poles, threaded tubular members, and covers that extend vertically. The examiner takes official notice that it is well known in the semiconductor process art to use threaded poles, threaded tubular members, and covers that extend vertically to provide mechanical devices for raising and lowering containers and covers in wafer processing chambers. See USPN 6,529,260 to Sogard; and USPN 3,968,885 to Hassan et al. Therefore one of ordinary skill would utilize the claimed mechanical devices to construct an elevator for moving subassemblies up and down in a semiconductor processing chamber.

Chandra also fails to teach the use of an elevator mechanism having drive and power conversion mechanisms. The examiner takes official notice that it is well known in the semiconductor process art to use drive and power conversion mechanisms including worm gear assemblies that are turned with a motor, a hydraulic motor, a linear electric motor, and/or a pneumatic cylinder. See USPN 6,529,260 to Sogard. Therefore one of ordinary skill would utilize the claimed devices to construct an elevator assembly for moving the various subassemblies of an exposure apparatus relatively easily for service and adjustment.

8. Regarding claim 7, Chandra teaches all the required limitations of claim 7, as pointed out with respect to claim 1 above. Chandra also teaches the use of a wafer holder in electron beam lithography. Col. 1, line 23-35; and Col. 7, line 3-14.

9. Regarding claim 8, Chandra teaches all the required structural limitations of claim 8, as pointed out with respect to claim 1 above. However, Chandra fails to teach vertically raising the upper lid and carrying out maintenance within the container while the lid is open. The examiner takes official notice that it is well known in the semiconductor process art to raise the top of a substrate processing chamber to perform maintenance. See USPN 6,529,260 to Sogard. Therefore one of ordinary skill would use an elevator assembly to open a processing chamber to allow easy access to the exposure apparatus for performing maintenance without the use of an overhead crane.


Conclusion

10. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Drew Dunn can be reached at (571)272-2312. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

December 15, 2006


12-15-06